CLAIMS

1. An implantable medical device for implantation into a patient, comprising:
   a battery having an electrode that develops a resistive film;
   a low deformation-rate capacitor capable of storing a charge from the battery, the capacitor requiring few or no periodic discharges of the battery for reformation; and
   means for periodically discharging energy from the battery into the low deformation-rate capacitor to reduce film buildup on the electrode.

2. An implantable medical device according to claim 1, further comprising a lead for sensing electrical signals of a patient via at least one electrode operatively coupled to the lead.

3. An implantable medical device according to claim 2, further comprising a status system for monitoring heart activity of the patient through the lead.

4. An implantable medical device according to claim 3, further comprising a therapy delivery system for delivering electrical energy through the lead to a heart of the patient.

5. An implantable medical device according to claim 1, further comprising a means for determining time elapsed since a therapy was delivered to a patient or since the battery was at least partially discharged.

6. An implantable medical device according to claim 1, wherein the battery discharge is greater than about 2.5 Joules.

7. An implantable medical device according to claim 1, further comprising a means for optimizing the battery discharge.

8. An implantable medical device according to claim 7, further comprising a means for optimizing the time between discharging the battery.

9. An implantable medical device according to claim 8, wherein the means for optimizing the battery discharge is dependant upon voltage delay.

10. An implantable cardioverter defibrillator comprising:

a lead for applying electrical energy to the patient;

a battery having an electrode for powering the implantable cardioverter defibrillator, the battery having an electrode that develops a film on it over time due to a lack of battery discharge;

an ICD status system for monitoring heart activity of the patient through the lead;

a therapy delivery system for delivering electrical energy through the lead to a heart of the patient;

a capacitor capable of storing a charge from the battery, the capacitor requiring no periodic discharges of the battery for reformation; and

means for periodically discharging the battery to reduce film buildup on the electrode.

11. An implantable cardioverter defibrillator according to claim 10, further comprising a means for determining elapsed time since a therapy was delivered to a patient or since the battery was discharged to reduce film buildup.

12. An implantable cardioverter defibrillator according to claim 10, wherein the battery discharge is greater than about 2.5 Joules.

13. An implantable cardioverter defibrillator according to claim 10, further comprising a means for optimizing the battery discharge.

14. An implantable cardioverter defibrillator according to claim 13, further comprising a means for optimizing the time between discharging the battery.

15. An implantable cardioverter defibrillator according to claim 14, wherein the means for optimizing the battery discharge is dependant upon voltage delay.

16. A method of exercising a battery of an implantable medical device, comprising:

determining whether a film is disposed on a portion of an electrode of a battery; and

discharging the battery a sufficient amount to reduce the film disposed on a portion of the electrode of the battery.

17. A method according to clam 16, further comprising: optimizing energy used during exercising the battery.

18. A method according to claim 17, further comprising: optimizing a time period, wherein said time period is defined as the amount of time elapsed between consecutive exercising of the battery.

19. A method according to claim 17, wherein the energy used during exercising the battery is optimized based upon voltage delay during charging of a capacitor.

20. A method according to claim 17, wherein the energy used during exercising the battery is optimized based upon discharging of the battery.

21. A method according to claim 16, wherein the battery supplies energy to a capacitor or an electrical resistor to exercise the battery.

22. A method according to claim 21, wherein the capacitor charged by the battery subsequently powers the device.

23. A method according to claim 16, wherein the battery is discharged through a resistive load to exercise the battery.

24. A method of exercising a battery of an implantable cardiac defibrillator, comprising:

determining a period of time elapsed since a cardiac therapy was administered to a patient or since a battery exercising session was performed;

resuming normal implantable cardiac defibrillator operation if the last therapy or exercising session was less than a predetermined amount of time; and

charging a capacitor with a predetermined amount of energy if the last therapy or exercising session was performed a greater time than the predetermined time.

25. A method according to claim 24, further comprising the step of determining whether the cardiac therapy needs to be administered.

26. A method according to claim 25, further comprising: instructing a therapy delivery system to charge the capacitor to deliver the cardiac on a scheduled basis.

27. A method according to claim 24, further comprising the step of minimizing the amount of energy removed from the battery based on a voltage delay.

28. A method according to claim 27, wherein a processor executes a software module to optimize energy removal from the battery.

29. A method according to claim 24, further comprising the step of minimizing the amount of energy removed from the battery based on a capacitor charge time, wherein said capacitor charge time comprises a period of time during which the capacitor is charged to a maximum or rated voltage of said capacitor.

30. A method according to claim 29, further comprising the step of determining whether the capacitor was charged to the maximum or rate voltage of said capacitor.

31. A computer readable medium for storing instructions for performing a method of exercising a battery of an implantable cardiac defibrillator, comprising:

instructions for determining a period of time elapsed since a cardiac therapy was administered to a patient or since a battery exercising séssion was performed;

instructions for resuming normal implantable cardiac defibrillator operation if the last therapy or exercising session was less than a predetermined amount of time; and

instructions for charging a capacitor with a predetermined amount of energy if the last therapy or exercising session was performed a greater time than the predetermined time.

32. A medium according to claim 31, further comprising instructions for determining whether the cardiac therapy needs to be administered.

33. A medium according to claim 32, further comprising instructions for instructing a therapy delivery system to charge the capacitor to deliver the cardiac on a scheduled basis.

34. A medium according to claim 31, further comprising instructions for minimizing the amount of energy removed from the battery based on a voltage delay.

35. A medium according to claim 34, wherein a remote processor executes the instructions for optimizing energy removal from the battery.

36. A medium according to claim 31, further comprising instructions for minimizing the amount of energy removed from the battery based on a capacitor charge time, wherein said capacitor charge time comprises a period of time during which the capacitor is charged to a maximum or rated voltage of said capacitor.

37. A medium according to claim 36, further comprising instructions for determining whether the capacitor was charged to the maximum or rated voltage of said capacitor.